

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of

SCHIEDER et al

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For: Subscriber Terminal, Network Controller and Communication System For  
Performing Packet Data Transfer With Reduced Delay

\* \* \* \* \*

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**PRELIMINARY AMENDMENT**

In order to place the above-identified application in better condition for  
examination, please amend the application as follows:

**IN THE CLAIMS**

Please amend claims 3-5, 9-10, 13-14, 19-21, 24-25 and 30 as follows:

3. {AMENDED} A subscriber terminal (SS) according to claim 1, wherein  
said active period detector (AP-DET) comprises a real-time application data  
detector (RT-DET) for detecting whether said data packets (DP) are real-time data  
packets.
4. {AMENDED} A subscriber terminal according to claim 1, wherein  
said physical connection maintaining device (LC-MATN) for maintaining said  
physical connection between said subscriber terminal (SS) side and said network side  
(NS) in said active period (AP) comprises a data packet transmission delay device (DP-  
DLY) for delaying the transmission of a data packet (DP1) at least for the inter-arrival  
time (TDIFF) as monitored by said active period detector (AP-DET).

5. {AMENDED} A subscriber terminal according to claim 1, comprising
  - a subscriber terminal side transmitter queue (TR-QUE) from which data packets (DP) are successively transmitted to the network side (NS);
  - a subscriber terminal side transmitter queue monitoring device (QUE-MON) for determining whether the transmitter queue (TR-QUE) comprises data packets (DP) to be transmitted;
  - a subscriber terminal side transmitter queue information setting means (CV-SET) for determining, on the basis of the determination made by said transmitter queue monitoring means (QUE-MON), a transmitter queue (TR-QUE) information (CV) indicating whether the transmitter queue (TR-QUE) is empty ( $CV=0$ ) or whether the transmitter queue (TR-QUE) contains at least one data packet to be transmitted to the network side ( $CV>0$ ); and
  - a subscriber terminal side transmitter (SS-TR) for transmitting to said network side (NS) data packets (DP) from the transmitter queue (TR-QUE) and for transmitting in association with a respective data packet (DP) said transmitter queue (TR-QUE) information (CV).
9. {AMENDED} A subscriber terminal according to claim 1, wherein
  - said transmitter queue information (CV) is transmitted in a respective data packet (DP).
10. {AMENDED} A communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TEE) is maintained which indicates in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are capable of performing said packet data transfer, comprising at least one subscriber terminal (SS) according to claim 1.

13. {AMENDED} A network controller (NC) according to claim 11, wherein  
said active period detector (AP-DET) comprises a real-time application data  
detector (RT-DET) for detecting whether said data packets (DP) to be transmitted from  
said network side (NS) are real-time data packets.
14. {AMENDED} A network controller (NC) according to claim 11, wherein  
said physical connection maintaining device (LC-MAIN) for maintaining said  
physical connection between said subscriber terminal (SS) side and said network side  
(NS) in said active period (AP) comprises a data packet transmission delay device (DP-  
DLY) for delaying the transmission of a data packet (DPI) at least for the inter-arrival  
time (TDIFF) as monitored by said active period detector (AP-DET).
19. {AMENDED} A network controller according to claim 15, wherein  
said transmitter queue information (FBI) is transmitted in a respective data packet  
(DP).
20. {AMENDED} A communication system (SYS) for performing packet data  
transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a  
network side (NS), wherein during a data packet transfer a physical connection  
(TBF) is maintained which indicates in the subscriber terminal (SS) and the  
network side (NS) that the subscriber terminal (SS) and the network side (NS) are  
capable of performing said packet data transfer, comprising at least one network  
controller (NC) according to claim 11.
21. {AMENDED} A communication system (SYS) for performing packet data  
transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a  
network side (NS), wherein during a data packet transfer a physical connection  
(TBF) is maintained which indicates in the subscriber terminal (SS) and the  
network side (NS) that the subscriber terminal (SS) and the network side (NS) are

capable of performing said packet data transfer, comprising at least one subscriber terminal (SS) according to one or more of claims 1-9 and at least one network controller (NC) according to claim 11.

24. {AMENDED} A method according to claim 22, comprising detecting whether said data packets (DP) are real-time data packets.
25. {AMENDED} A method according to claim 22, comprising delaying the transmission of a data packet (DPI) at least for the inter-arrival time (TDIFF) as monitored by said active period detector (AP-DET).
30. {AMENDED} A method according to claim 22, wherein said transmitter queue information (CV) is transmitted in a respective data packet (DP).

### REMARKS

The amendments to claims 3-5, 9-10, 13-14, 19-21, 24-25 and 30 are depicted in bracket and underline format below:

3. {AMENDED} A subscriber terminal (SS) according to claim 1 [or 2], wherein said active period detector (AP-DET) comprises a real-time application data detector (RT-DET) for detecting whether said data packets (DP) are real-time data packets.
4. {AMENDED} A subscriber terminal according to claim 1 [or 2 or 3], wherein said physical connection maintaining device (LC-MATN) for maintaining said physical connection between said subscriber terminal (SS) side and said network side (NS) in said active period (AP) comprises a data packet transmission delay device (DP-DLY) for delaying the transmission of a data packet (DPI) at least for the inter-arrival time (TDIFF) as monitored by said active period detector (AP-DET).

5. {AMENDED} A subscriber terminal according to [one or more of claims 1-4]  
claim 1, comprising
- a subscriber terminal side transmitter queue (TR-QUE) from which data packets (DP) are successively transmitted to the network side (NS);
  - a subscriber terminal side transmitter queue monitoring device (QUE-MON) for determining whether the transmitter queue (TR-QUE) comprises data packets (DP) to be transmitted;
  - a subscriber terminal side transmitter queue information setting means (CV-SET) for determining, on the basis of the determination made by said transmitter queue monitoring means (QUE-MON), a transmitter queue (TR-QUE) information (CV) indicating whether the transmitter queue (TR-QUE) is empty (CV=O) or whether the transmitter queue (TR-QUE) contains at least one data packet to be transmitted to the network side (CV>O); and
  - a subscriber terminal side transmitter (SS-TR) for transmitting to said network side (NS) data packets (DP) from the transmitter queue (TR-QUE) and for transmitting in association with a respective data packet (DP) said transmitter queue (TR-QUE) information (CV).
9. {AMENDED} A subscriber terminal according to [one or more claims 1 to 8]  
claim 1, wherein
- said transmitter queue information (CV) is transmitted in a respective data packet (DP).
10. {AMENDED} A communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TEE) is maintained which indicates in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are

capable of performing said packet data transfer, comprising at least one subscriber terminal (SS) according to [one or more of claims 1-9] claim 1.

13. {AMENDED} A network controller (NC) according to claim 11 [or 12], wherein said active period detector (AP-DET) comprises a real-time application data detector (RT-DET) for detecting whether said data packets (DP) to be transmitted from said network side (NS) are real-time data packets.

14. {AMENDED} A network controller (NC) according to [one or more of claims 11-13] claim 11, wherein said physical connection maintaining device (LC-MAIN) for maintaining said physical connection between said subscriber terminal (SS) side and said network side (NS) in said active period (AP) comprises a data packet transmission delay device (DP-DLY) for delaying the transmission of a data packet (DPI) at least for the inter-arrival time (TDIFF) as monitored by said active period detector (AP-DET).

19. {AMENDED} A network controller according to [one or more claims 15 to 18] claim 15, wherein said transmitter queue information (FBI) is transmitted in a respective data packet (DP).

20. {AMENDED} A communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TBF) is maintained which indicates in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are capable of performing said packet data transfer, comprising at least one network controller (NC) according to [one or more of claims 11-19] claim 11.

21. {AMENDED} A communication system (SYS) for performing packet data transfer on a connection (UL, DL) between the subscriber terminal (SS) side and a network side (NS), wherein during a data packet transfer a physical connection (TBF) is maintained which indicates in the subscriber terminal (SS) and the network side (NS) that the subscriber terminal (SS) and the network side (NS) are capable of performing said packet data transfer, comprising at least one subscriber terminal (SS) according to one or more of claims 1-9 and at least one network controller (NC) according to [one or more of claims 11-19] claim 11.
24. {AMENDED} A method according to claim 22 [or 23], comprising detecting whether said data packets (DP) are real-time data packets.
25. {AMENDED} A method according to claim 22 [or 23 or 24], comprising delaying the transmission of a data packet (DPI) at least for the inter-arrival time (TDIFF) as monitored by said active period detector (AP-DET).
30. {AMENDED} A method according to [one or more claims 22 to 29] claim 22, wherein said transmitter queue information (CV) is transmitted in a respective data packet (DP).

The above amendments are made to place the claims in a more traditional format.

Respectfully submitted,

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